

REMARKS

Claims 1-17 are pending and stand ready for further action on the merits.

The specification and claims 1-12 have been amended for clarity.

Support for new claim 13 can be found in claim 12 and in the specification. Support for new claims 14-17 can be found in the specification.

No new matter has been added by way of the above-amendment.

The above-amendment has not been made for the sake of patentability and/or does not narrow the scope of the invention.

Information Disclosure Statement (IDS)

The Examiner indicates that no English language abstracts have been provided by Applicants for Japanese patents 2-28879, 61-171435 and 3-53380 which were cited in the June 8, 2001 IDS. For the Examiner's convenience, Applicants enclose herewith the English language abstracts for these documents for the Examiner's review. The Examiner should now have the English language abstracts for all of the Japanese patents cited in the June 8, 2001 IDS.

Issues under 35 U.S.C. 101 and 112, 1<sup>st</sup> paragraph

Claims 1-12 are rejected under 35 U.S.C. 101 as being drawn to non-statutory subject matter; and claims 1-12 are rejected under 35 U.S.C. 112, 1<sup>st</sup> paragraph, since the specification does not provide sufficient enablement for the skilled artisan to use the claimed invention.

Applicants respectfully traverse each of the rejections.

The MPEP sets forth explicit instructions for reviewing computer program claims in light of the statutory requirements of 35 USC 101. Specifically, MPEP 2106(II)(A) states:

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." (Citation omitted). The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (citations omitted). *Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.* (Emphasis added).

Applicants respectfully submit that a complete disclosure has been set forth in the specification as required by this section of the MPEP. Specifically, the present inventors have described on pages 1 and 2 of the specification that the inventive computer

program is intended to be capable of canonically coding stereochemical information for predicting NMR chemical shifts. Also, the inventive program provides a means for notating the stereostructural environment into computer readable data.

MPEP 2106(II)(A) further goes on to state:

The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

What exactly constitutes a "useful, concrete and tangible" result is taken on a case by case basis. However, Applicants respectfully submit that certain cases providing guidance would lead the Examiner to the conclusion that the claimed invention produces such a result. Specifically, *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 47 USPQ2d 1596 (CAFC 1998) has facts similar to the present case. In this case, the court applied a test for compliance with Section 101 which was originally described in *In re Freeman*, 573 F.2d 1237, 197 USPQ 464 (CCPA 1978) but was modified by *In re Walter*, 618 F.2d 758, 205 USPQ 397 (CCPA 1980). The test has been thus articulated:

First, the claim is analyzed to determine whether a mathematical algorithm is directly or indirectly recited. Next, if a mathematical algorithm is found, the claim as a whole is further analyzed to determine whether the algorithm is "applied in any manner to physical elements

or process steps," and, if it is, it "passes muster under Section 101."

Using this test, the court found that the transformation of data, representing discrete dollar amounts, through a series of mathematical calculations into a final share price, "constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes...". *State Street*, 47 USPQ2d at 1601. *State Street* holds that even if the useful result is expressed in numbers, such as price, profit, percentage, cost, or loss, it is statutory subject matter.

In the present case, the useful result is numbers/symbols and is therefore statutory subject matter.

In addition, the Examiner seems to take the position that the inventive claims are nonstatutory, *per se*, since they are drawn to a process/program. On this matter, *AT & T Corp. v. Excel Communications Inc.* (CA FC) 50 USPQ2d 1447 (CAFC 1999) holds otherwise. The scope of patentable subject matter under 35 U.S.C. Section 101 is same regardless of whether the claim is drafted in machine or process form, and the reasoning used to determine whether machine claims encompass statutory subject matter is equally applicable to method claims.

At issue in *AT & T* was whether a claimed method for producing a message record for long distance telephone calls, enhanced by the addition of primary interexchange carrier (PIC) indicators were patentable subject matter under 35 U.S.C. Section 101. The court found that the claimed method constitutes patentable subject matter under 35 U.S.C. Section 101, even though the "PIC indicator represents information about the call recipient's PIC, a useful, non-abstract result that facilitates differential billing of long-distance calls made by an IXC's subscriber. Because the claimed process applies the Boolean principle to produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of Section 101." *Id* at 1452.

As mentioned above, Applicants respectfully submit that the inventive claims satisfy 35 U.S.C. 101, since the claimed invention produces a "useful, concrete and tangible" having a practical application, in that the inventive program provides stereochemical information which is canonically coded to be used to predict NMR chemical shifts and to clearly describe the stereostructural environment of atoms in a molecule as computer readable data. Accordingly, withdrawal of the rejection under 35 U.S.C. 101 is respectfully requested.

With regard to the rejection under 35 U.S.C. 112, 1<sup>st</sup> paragraph, the Examiner only provides a brief description as to the basis for the rejection. Specifically, the Examiner indicates that since the presently claimed invention does not have a specific utility, then it naturally follows that the present invention lacks an enabling disclosure as required under 35 U.S.C. 112, 1<sup>st</sup> paragraph.

Applicants respectfully submit that for reasons set forth above, the present invention satisfies the requirements of 35 U.S.C. 101.

On this matter, MPEP 2106(V)(B)(2) states that the

"specification should disclose how to configure a computer to possess the requisite functionality or how to integrate the programmed computer with other elements of the invention, unless a skilled artisan would know how to do so without such disclosure." (Emphasis in original).

In the present case, the Examiner has given no reasons why the skilled artisan would not know how to configure a computer to possess the requisite functionality in light of the inventive disclosure.

As stated by the Federal Circuit:

When rejecting a claim under the enablement requirement of Section 112, the [Patent Office] bears an initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by the claim is not adequately enabled by the description of the invention provided in the specification of the

application; this includes, of course, providing sufficient reasons for doubting any assertions in the specification as to the scope of enablement. *In re Wright*, 999 F.2d 1557, 27 USPQ 2d 1510, 1513 (Fed. Cir. 1993).

Applicants respectfully submit that the Examiner has made unsubstantiated assertions which lack evidentiary support. The Examiner has not established a *prima facie* case of nonenablement, i.e., the Examiner has not provided sufficient reasons why Applicants' assertion is incorrect that the present program is useful to prepare stereostructural information regarding atoms in a molecule which is utilizable as computer readable data for applications such as calculating NMR chemical shifts.

In addition, the skilled artisan is aided by the instant disclosure and the advanced state of the art to perform the instant invention. As described in the present specification beginning at page 9, line 18, the skilled artisan is shown specific non-limiting examples of using the inventive program to obtain stereostructural information of certain sugars.

Thus, Applicants respectfully submit that the test for enablement has been met and withdrawal of the rejection under 35 USC 112, first paragraph is respectfully requested.

Claim 13

Applicants respectfully submit that claim 13 is clearly allowable under 35 U.S.C. 112, 1<sup>st</sup> paragraph and 35 U.S.C. 101, since claim 13 provides that the "codes of the molecule are recorded in a computer readable recording medium to give the stereochemistry about each of a plurality of atoms constituting the molecule." Also, claim 13 provides that the computer readable medium containing instructions is "executed by a processor."

Accordingly, it appears that new claim 13 is clearly allowable under 35 U.S.C. 101 and 112, 1<sup>st</sup> paragraph.

Issues under 35 U.S.C. 112, 2<sup>nd</sup> paragraph

Claims 1-12 are rejected under 35 U.S.C. 112, 2<sup>nd</sup> paragraph as being indefinite.

Applicants respectfully traverse the rejection.

Beginning at page 6 of the outstanding Office Action, the Examiner sets forth certain reasons why the presently claimed invention does not satisfy the requirements of 35 U.S.C. 112, 2<sup>nd</sup> paragraph.

In response, Applicants have amended claims 1-12 to improve the clarity of the presently claimed invention. Applicants believe that the above-amendment adequately addresses each of the Examiner's objections to the claims.



Applicants' response to certain objections made by the Examiner is now provided.

In the first paragraph on page 8 of the outstanding Office Action, the Examiner raises the question as to whether the phrase "combined with" refers to a bonding between the atoms. In response, Applicants have amended the claims by replacing the phrase "combined with" with "bonded to."

In the third paragraph on page 12 of the outstanding Office Action, the Examiner objects to the term "CANOST" as appearing in claims 6-8. The Examiner believes this term to be trade name or trademark. In response, Applicants respectfully direct the Examiner's attention to Satoh et al. (J. Chem. Inf. Comput. Sci. Vol. 40, pp.622-630, 2000) which is cited in the enclosed IDS. In column 1 of page 622, Satoh indicates that CANOST is an acronym for a coding method. The long form of the coding method is "Autocanonicalization System For Organic Structures." As such, CANOST is neither a trademark or a trade name.

Based on the above amendment and comments, Applicants respectfully submit that the claims particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Accordingly, withdrawal of the rejection under 35 U.S.C. 112, 2<sup>nd</sup> paragraph is respectfully requested.

Request for Information under 37 C.F.R. 1.105

The Examiner has requested specific information relating to the present invention in the section beginning at the bottom of page 12 of the outstanding Office Action. In response, Applicants enclose herewith an Information Disclosure Statement which cites four relevant articles to aid the Examiner's understanding of the background of the invention. Accordingly, Applicants respectfully submit that the requirement for information under 37 C.F.R. 1.105 has been met.

Conclusion

In view of the above amendments and comments, Applicants respectfully submit that the claims are in condition for allowance. A notice to such effect is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$110.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq. (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an


Appl. No. 09/857,610

interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachments: (1) English language Abstracts for JP10-175884; JP2-28879; JP61-171435 and JP3-53380  
(2) IDS